Efficient Method for the Liberation of Hydrogen Atoms from H2O Without Use of Electrolysis

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Introduction

Rather than using electrolysis for the production of hydrogen, a process that requires both large quantities of electricity and the frequent replacement of rapidly corroding electrodes, I propose a system that relies upon Coulomb attraction between "force lines" generated by an aligned phononic lattice and hydrogen ions to break the H-O bonds. Millions of "force lines" each spaced around 2.5Å apart (the distance between hydrogen ions in H2O irrespective of electron clouds) would achieve a conversion any time both H atoms associated with a given water molecule simultaneously crossed the path of two respective "force lines" (imaginary lines projected along a path that passes through aligned electrons in the lattice structure.)

Abstract

When phononic energy is translated through the lattice, H-O bonds are broken as a result of the attraction of the hydrogen ions to the aligned electrons. Rather than trying to inject large quantities of electrons into the space between hydrogen and oxygen to repel the single electron of hydrogen, the use of phononic force lines to "pinch" hydrogen atoms from H2O maximizes efficiency.

Hydrogen atoms generally have a known orientation with relation to oxygen within water and thus their average proximity to one another tends to be constant. This provides critical information concerning the ideal spacing of force lines. Importantly, it is the simultaneous tugging on both of the associated hydrogen atoms that makes this approach so effective. By pulling both atoms in the same direction, the hydrogens will move from an average relative orientation of about 104.45° to a much closer position relative to one another. This, combined with the inherently asymmetrical force (both ions will be a slightly different distance from the aligned electrons and will be affected differently) applied will result in the two ions of hydrogen making a close approach to one another. The one that is closer to the aligned electrons in the lattice to start with will tend to take on a more ectopic position. The hydrogen ion that remains nearer to its associated oxygen atom will remain attached to it. Ultimately, it is the mutual repulsion of the hydrogen ions that provides the final repulsive force to separate H2O into H-O and H in this proposed system.

To use an analogy, imagine a Marionette doll with strings attached. Imagine that the arms of the doll are the hydrogen atoms and the comparatively bulky torso is the oxygen. If the doll is lying on a table and the doll is pulled in a particular direction, the arms will come closer together almost immediately as the doll is pulled, let's say, across the table, even if they had been stretched out to begin with. In the case of elements like hydrogen, however, that act of coming together ultimately provides the final "kick" needed to pop one of the

arms off of the doll.

Conclusion

This approach has the benefit of requiring the investment of little to no electrical energy aside from that associated with the initial manufacture of the resonance structures. The crystal lattice material can be constructed in the form of pipes through which large quantities of water can be pumped, much of which would be converted in a single pass through the specialized pipe with any unconverted water being recycled as needed.